

II. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-40. (Cancelled).

41. (Currently Amended) A method of determining block formats to be used to transmit blocks of data from a transmitter to a receiver over a channel subject to fading, the method comprising:

the receiver measuring a reception-quality of data received by the receiver over the channel from the transmitter and providing those measurements to the transmitter; and

the transmitter monitoring a measure of the rate of change of the reception-quality of data received by the receiver over the channel from the transmitter[[;]] and, if the measure of the rate of change of the reception-quality indicates that measurements of the reception-quality are being obtained and provided to the transmitter fast enough so that each measurement of reception-quality is a reasonably accurate estimate of the reception-quality at which the receiver will receive the next block to be transmitted, then determining a format for the next block to be transmitted by the transmitter to the receiver using the most recent measurement of reception-quality

provided to the transmitter, but otherwise, determining a format for the next block to be transmitted by the transmitter to the receiver using an average of a portion of the reception-quality measurements received by the receiver over the channel from the transmitter; [.]

wherein each reception-quality measurement is mapped to a set of transmit-control bits using a quantization mapping, each set of transmit-control bits is transmitted from the receiver to the transmitter in a slotted frame of data, and each transmit-control bit is carried in a discrete slot of the frame,

wherein there are five transmit-control bits in the set of transmit-control bits, four of which are quantized data bits and the fifth bit is a parity bit generated by XOR-ing the four data bits together, and wherein the slotted frame has 15 slots, and
wherein the five transmit-control bits in the set of transmit-control bits are distributed among the 15 slots of the frame in the following manner:

X/T/M0/M1/T/M2/M3/T/P4/X/T/X/X/T/X,
in which slashes delimit slots, T represents a transmit power control bit used to control the power used by the transmitter to transmit a dedicated channel to the receiver, M0-M3 represent the quantized data bits, P4 represents the parity bit, and X represents a reserved bit.

42. (Currently Amended) The method of claim 44 41, wherein the measure of the rate of change of the reception-quality of data transmitted over the channel from the transmitter to the receiver is determined periodically, but with a different period or phase than measurements of reception-quality of data transmitted over

the channel from the transmitter to the receiver are made.

43. (Currently Amended) The method of claim 44 41, wherein the channel is a wireless channel, the receiver is a subscriber station, and the transmitter is a base station.

44. (Currently Amended) The method of claim 41A method of determining block formats to be used to transmit blocks of data from a transmitter to a receiver over a channel subject to fading, the method comprising:

the receiver measuring a reception-quality of data received by the receiver over the channel from the transmitter and providing those measurements to the transmitter; and

the transmitter monitoring a measure of the rate of change of the reception-quality of data received by the receiver over the channel from the transmitter and, if the measure of the rate of change of the reception-quality indicates that measurements of the reception-quality are being obtained and provided to the transmitter fast enough so that each measurement of reception-quality is a reasonably accurate estimate of the reception-quality at which the receiver will receive the next block to be transmitted, then determining a format for the next block to be transmitted by the transmitter to the receiver using the most recent measurement of reception-quality provided to the transmitter, but otherwise, determining a format for the next block to be transmitted by the transmitter to the receiver using an average of a portion of the reception-quality measurements received by the receiver over the channel from the

transmitter,

wherein the reception-quality measurements used to determine the average are sorted into portions by magnitude and one of the portions so determined is used to determine the average.

45. (Previously Presented) The method of claim 44, wherein the sorted portion used to determine the average is the portion having the lowest magnitudes.

46. (Currently Amended) The method of claim 44, wherein the measure of the rate of change of the reception-quality is determined from a sequence of reception-quality measurements.

47. (Previously Presented) The method of claim 46, wherein the measure of the rate of change of the reception-quality is determined by finding the frequency spectrum of the sequence of reception-quality measurements.

48. (Currently Amended) The method of claim 44, wherein the measure of the rate of change of the reception-quality is determined from the rate at which the receiver is requesting retransmissions over the channel from the transmitter.

Claims 49-51 (Cancelled)

52. (Currently Amended) A base station operable to transmit blocks of data in frames to a plurality of subscriber stations over a shared channel subject to fading, the base station configured to receive from at least one of the subscriber stations over a dedicated channel both:

- (a) a measurement of reception-quality of each frame of data received over the shared channel by that subscriber station; and
- (b) a periodically transmitted average of a portion of a series of measurements of the reception-quality of frames of data received over the shared channel by that subscriber station,

wherein the base station is configured to determine a measure of the rate of change of the measurements of reception-quality of the frames of data received over the shared channel by that subscriber station and, if the measure of the rate of change of the reception-quality indicates that measurements of the reception-quality are being obtained and provided to the base station fast enough so that each measurement of reception-quality is a reasonably accurate estimate of the reception-quality at which the subscriber station will receive the next block to be transmitted to it, then determining a format for the next block to be transmitted by the base station to that subscriber station using the most recent measurement of reception-quality received by the base station, but otherwise, determining a format for the next block to be transmitted by the base station to that subscriber station using the average received from that subscriber station,

wherein each reception-quality measurement is mapped to a set of transmit-control bits using a quantization mapping, each set of transmit-control bits is transmitted from the subscriber station to the base station over a dedicated channel in a

slotted frame of data, and each transmit-control bit is carried in a discrete slot of the frame,

wherein there are five transmit-control bits in the set of transmit-control bits, four of which are quantized data bits and the fifth bit is a parity bit generated by XORing the four data bits together, and wherein the slotted frame has 15 slots, and wherein the five transmit-control bits in the set of transmit-control bits are distributed among the 15 slots of the frame in the following manner:

X/T/M0/M1/T/M2/M3/T/P4/X/T/X/X/T/X,

in which slashes delimit slots, T represents a transmit power control bit used to control the power used by the base station to transmit a dedicated channel to the subscriber station, M0-M3 represent the quantized data bits, P4 represents the parity bit, and X represents a reserved bit.

53. (Currently Amended) The base station of claim 54 52, wherein the measure of the rate of change of the reception-quality of frames of data transmitted over the shared channel from the base station to the subscriber station is determined periodically, but with a different period or phase than measurements of reception-quality of frames of data transmitted over the shared channel from the base station to the subscriber station are made.

54. (Currently Amended) The base station of claim 52-A base station operable to transmit blocks of data in frames to a plurality of subscriber stations over a shared channel subject to fading, the base station configured to receive from at least one

of the subscriber stations over a dedicated channel both:

(a) a measurement of reception-quality of each frame of data received over
the shared channel by that subscriber station; and

(b) a periodically transmitted average of a portion of a series of
measurements of the reception-quality of frames of data received over the shared channel
by that subscriber station,

wherein the base station is configured to determine a measure of the rate
of change of the measurements of reception-quality of the frames of data received over
the shared channel by that subscriber station and, if the measure of the rate of change of
the reception-quality indicates that measurements of the reception-quality are being
obtained and provided to the base station fast enough so that each measurement of
reception-quality is a reasonably accurate estimate of the reception-quality at which the
subscriber station will receive the next block to be transmitted to it, then determining a
format for the next block to be transmitted by the base station to that subscriber station
using the most recent measurement of reception-quality received by the base station, but
otherwise, determining a format for the next block to be transmitted by the base station to
that subscriber station using the average received from that subscriber station,

wherein the reception-quality measurements used to determine the average
are sorted into portions by magnitude and one of the portions so determined is used to
determine the average.

55. (Currently Amended) The base station of [[claim 52]] claim 54, wherein the sorted portion used to determine the average is the portion having the lowest magnitudes.

56. (Currently Amended) The base station of claim 54 52, wherein the measure of the rate of change of the reception-quality is determined by finding the frequency spectrum of a sequence of reception-quality measurements.

57. (Currently Amended) The base station of claim 54 52, wherein the measure of the rate of change of the reception-quality is determined from the rate at which the subscriber station is requesting retransmissions over the shared channel from the base station.

Claims 58-60 (Cancelled)